FORM APPROVED Form 3160-3 (April 2004) OMB No. 1004-0137 Expires March 31, 2007 **UNITED STATES** RTMENT OF THE INTERIOR 5. Lease Serial No. BUREAU OF LAND MANAGEMENT MDA 701-98-0013, Tract 2 6. If Indian, Allottee or Tribe Name ANDON FOR PERMIT TO DRILL OR DEEPEN Jicarilla Apache Nation 7. If Unit or CA Agreement, Name and No. REENTER DRILL 1a. Type of Work 8. Lease Name and Well No. 1b. Type of Well Oil Well X Gas Well X Single Zone Multiple Zone Jicarilla 29-02-29 43 E-mail: lbenally@bhep.com 9. API Well No. 2. Name of Operator Black Hills Gas Resources, Inc. Contact: Lynn Benally 3a. Address 350 Indiana Street, Suite 400 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory 80401 East Blanco Pictured Cliffs 505.634.1111 Golden 4. Location of Well (Report location clearly and in accordance with any State Requirements.*) 11. Sec., T., R., M., or Blk. and Survey or Area 2.190' FEL SW /4 SE /4 745' FSL) Sec. 29 T 29N R 2W Lat: 36° 41' 28.2" Long: 107° 03' 54.0" At proposed production zone 14. Distance in miles and direction from nearest town or post office. ' 12. County or parish 13. State Well is located approximately 57 miles east of Bloomfield, New Mexico. Rio Arriba New Mexico 15. Distance from proposed location to nearest 17. Spacing Unit dedicated to this well 16. No. of acres in lease property of lease line, ft. (Also nearest Drig, unit 10.240.0 160 Lease= ±3.090' Jicarilla 18. Distance from proposed location to nearest 19. Proposed depth 20. BLM/BIA Bond No. on file 29-02-28 well, drilling, completed or applied for, on this ± 2.600 4.000' NMB000230 lease, ft. 31 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start 23. Estimated duration 7,141 'GR May 19, 2005 45-60 days drig + completion 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form: 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see item 20 above). 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest 5. Operator certification. System Lands, the SUPO shall be filed with the appropriate 6. Such other site specific information and/or plans as may be Forest Service Office). required by the authorized officer. 25. Signature Name (Printed/Typed) Date Larry & Schneebeck April 14, 2005 Kathy L. Schneebeck, 303.820.4480 Title Agent for Black Hills Gas Resources, Inc. Approved by (Signature Name (Printed/Typed) Date Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditiona of approval, if any, are attached Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction. DRILLING OPERATIONS AUTHORIZED ARE This action is subject to fechnical and CE WITH ATTACHED procedural review pursition to 43 CFR 3165.3. SUBJECT TO COM "GENERAL REQUIREMENTS". and appeal pursuant to 43 CFR 3165.4

NNOCD

DISTRICT 1 1825 N. French Dr., Hobbs, N.M. 68240

DISTRICT II 1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III 1000 Rio Brazos Rd., Axtec, N.M. 87410

State of New Mexico Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-102 Revised June 10, 2003 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT IV 1220 South St. Francis Dr., Santa Pe, NM 87605

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	*Pool Code	*Pool Code *Pool Name		
	72400	E. Blanco / Pictured Cl	liffs	
*Property Code			*Well Number	
2424552	JICARILL	A 29-02-29	43	
TOGRUD No.	• Орг	*Operator Name		
013925	BLACK HILLS	GAS RESOURCES	7141'	
	4.4			

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	29	29-N	2-W		745	SOUTH	2190	EAST	RIO ARRIBA
***************************************			" Botto	om Hole	Location I	Different Fr	om Surface	tio allianti. Ant e-usure e distributa de grang de Poir Astronado de La Poisse de Princese e	4 **Control of the Control of the C
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres is Joint or Infill			infili	14 Consolidation (ode	¹⁶ Order No.	An an abada tradetra ectorocopy or fer productive actor enterior concessor		
160 acres - SE/4									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

errect of the transport of the three transport transport of the transport	ON A HON DIAM	DAND ONL HAD D	SEN APPROVED BY	A A A A A A A A A A A A A A A A A A A
16			FD: MARKED STONE W/ P&C "LS 8894"	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein to irus and complete to the best of my knowledge and belief
APR 15 RM 16	RECEIVED TO FARMINGTON		4877.86' (M)	Kacky & Schneebeck Signature Kathy L. Schneebeck Printed Name Permit Agent for Black Hill Title April 14, 2005
5002	2	NAD 83)	N 01-34-00 E	Date 18 SURVEYOR CERTIFICATION I hereby certify that the well tocation shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of the same in the condition of the left of the same in the condition of the left
FD. P&C *LS 8894*	N 89-10-36 W 5196.44' (M)	745,	2190' FD. MARKED STONE W/ P&C "LS 8894"	Schaffer and ceal of Productions Surveyor. 14831 Professional Surveyor. 14831 Certificate Magazier

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District III
1304 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

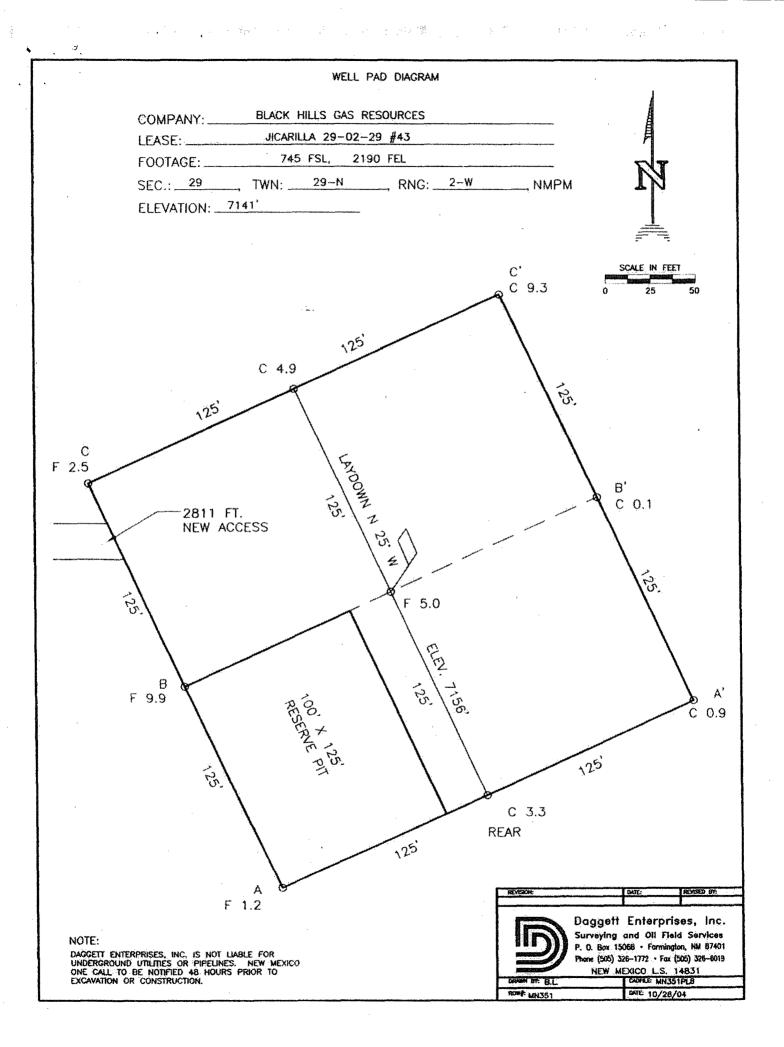
Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-144

June 1, 2004

Pit or Below-Grade Tank Registration or Closure
Is pit or below-grade tank covered by a "general plan"? Yes 🛛 No 🗌
faction: Registration of a pit or below-grade tank X Closure of a pit or below-grade tank

Type of action. Registration of a pit of	i below-grade talik 🔯 Closure of a pit of below-gra	ide talik []
Operator: Black Hills Gas Resources, Inc. Te	slephone: <u>*720-210-1300</u> e-mail ad	dress: <u>lbenally@bhep.com</u>
Address: 300 Indiana St, Suite 400, Golden, CO 80401		
Facility or well name: _Jicarilla 29-02-29 43 API #:	Pending U/L or Qtr/Qtr SW SE	Sec29
County: Rio Arriba Latitude 36° 41' 28.2" Longitude 107° 03'	54.0" NAD: 1927 ☐ 1983 ⊠ Surface Owner Fed	eral State Private Indian
		
Pit	Below-grade tank	
Type: Drilling Production Disposal	Volume:bbl Type of fluid:	
Workover Emergency	Construction material:	_
Lined [Unlined [Double-walled, with leak detection? Yes If no	t, explain why not.
Liner type: Synthetic Thickness mil Clay 🛛		
Pit Volume <u>±17.811</u> bbl		
	Less than 50 feet	(20 points)
Depth to ground water (vertical distance from bottom of pit to seasonal	50 feet or more, but less than 100 feet	(10 points)
high water elevation of ground water.)	100 feet or more	(0 points)
	Yes	(20 points)
Wellhead protection area: (Less than 200 feet from a private domestic	No	(0 points)
water source, or less than 1000 feet from all other water sources.)		
Distance to surface water: (horizontal distance to all wetlands, playas,	Less than 200 feet	(20 points)
irrigation canals, ditches, and perennial and ephemeral watercourses.)	200 feet or more, but less than 1000 feet	(10 points)
, , , , , , , , , , , , , , , , , , , ,	1000 feet or more	(0 points)
	Ranking Score (Total Points)	0 points
this is a pit closure: (1) attach a diagram of the facility showing the pit's	relationship to other equipment and tanks. (2) India	eate disposal location: (check the onsite box if
our are burying in place) onsite 🔲 offsite 🔲 If offsite, name of facility_	(3) Attach a general	description of remedial action taken including
mediation start date and end date. (4) Groundwater encountered: No 🔲 Y	Yes I If yes, show depth below ground surface	ft. and attach sample results. (5)
ttach soil sample results and a diagram of sample locations and excavation	s	
Additional Comments:		
* Local contact in New Mexico is Lynn Benally at 505-634-1111 Ext. 27		
<u> </u>		
	·	
hereby certify that the information above is true and complete to the best has been/will be constructed or closed according to NMOCD guideline Date: 04/14/05	es 🔼, a general permit 🔲, or an (attached) altern	ative OCD-approved plan □.
'rinted Name/Title Kathy L. Schneebeck / Permit Agent for Black Hills C	Gas Resources, Inc. Signature Kar	they I Schneebeck
Cour certification and NMOCD approval of this application/closure does not therwise endanger public health or the environment. Nor does it relieve the egulations.	not relieve the operator of liability should the content	s of the pit or tank contaminate ground water or
approval: DEPUTY (Q. & GAS INSPECTOR, DIS).	1 1.	<u></u> የምክ ል <i>ል</i> ንስስ፤
rinted Name/Title	Signature Signature	Date: SEP 0 6 2005
		,



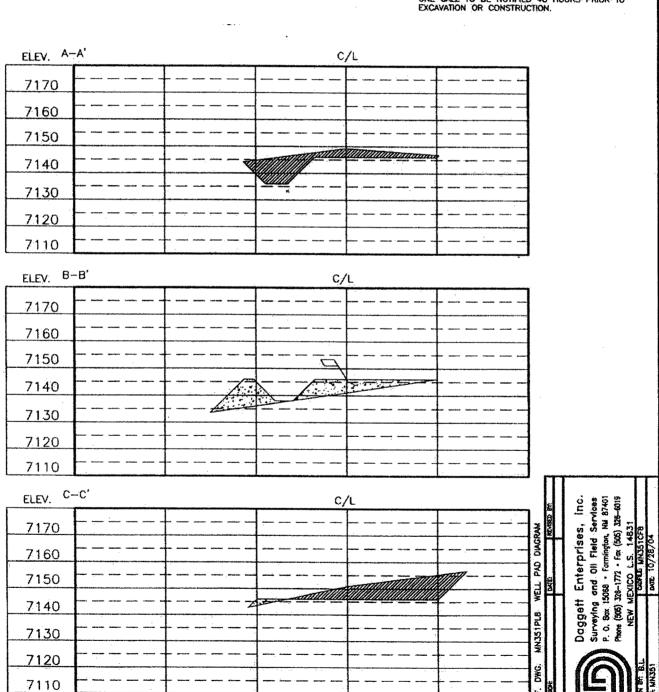
WELL PAD CROSS-SECTIONAL DIAGRAM

COMPANY:	BLACK HILLS GAS RE	SOURCES	
LEASE:	JICARILLA 29-02-2	9 #43	
FOOTAGE:	745 FSL, 2190	FEL.	
SEC.: 29	TWN: 29-N	, RNG: <u>2-W</u>	, NMPN
ELEVATION:	7141'		

NOTE:

DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

Prepagation.



Black Hills Gas Resources, Inc. **Jicarilla 29-02-29 43** 745' FSL 2,190' FEL (SW/4 SE/4) Sec. 29 T29N R2W

Rio Arriba County, New Mexico Lease: MDA 701-98-0013, Tract 2

DRILLING PROGRAM

This Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This NOS process included an onsite meeting, which was held on November 4, 2004, as determined by BLM, Bureau of Indian Affairs (BIA) and Jicarilla Oil and Gas Administration (JOGA), and at which time the specific concerns of Black Hills Gas Resources, Inc. (Black Hills), BLM, BIA and JOGA were discussed.

SURFACE FORMATION - San Jose

GROUND ELEVATION - 7,141'

ESTIMATED FORMATION TOPS - (Water, oil, gas and/or other mineral-bearing formations)

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	2,074	Sandstone, shales & siltstones
Ojo Alamo	3,122'	Sandstone, shales & siltstones
Kirkland	3,332'	Sandstone, shales & siltstones
Fruitland Coal	3,423'	Sandstone, shales & siltstones
Pictured Cliffs	3,494'	Sandstone, shales & siltstones
Lewis	3,606'	Sandstone, shales & siltstones
TOTAL DEPTH	4,000'	

Estimated depths of anticipated fresh water, oil, or gas:

Tertiary

San Jose	surface	Gas
Nacimiento	2,074'	Gas
Ojo Alamo	3,122'	Gas
Fruitland Coal	3,423'	Gas
Pictured Cliffs	3,429'	Gas

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0'-250'	12-1/4"	8-5/8"	J-55 24# ST&C New	To surface (±175 sxs Class B)
0' - T.D.	7-7/8"	5-1/2"	J-55 15.5# LT&C New	TD to surface (±630 sxs lite or 65:35 poz and ±270 sxs 50:50 poz)*

^{*} Actual cement volume to be determined by caliper log.

Yields:

Class B yield = $1.18 \text{ ft}^3/\text{sx}$

 $65:35 \text{ Poz yield} = 1.62 \text{ ft}^3/\text{sx}$

 $50:50 \text{ Poz yield} = 1.26 \text{ ft}^3/\text{sx}$

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth and protected.

PRESSURE CONTROL

BOPs and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating condition. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to 1,000 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 1,000 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,000 psi, whichever is greater, not to exceed 70% of internal yield.

BOP to be either double gate rams or an annular preventor as per Onshore Order No. 2.

Statement on Accumulator System and Location of Hydraulic Controls

The drilling rig has not yet been selected for this well. Selection will take place after approval of this application. Manual and/or hydraulic controls will be in compliance with Onshore Order No. 2 for 2M systems.

A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.

MUD PROGRAM

0' - 250' Fresh water – M.W. 8.5 ppg, Vis 30-33
250' - TD Fresh water - Low solids non-dispersed
M.W. 8.5 – 9.2 ppg
Vis – 28 – 50 sec
W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at wellsite.

AUXILIARY EQUIPMENT

- A) A Kelly cock will be kept in the drill string at all times
- B) Inside BOP or stab-in valve (available on rig floor)
- C) Mud monitoring will be visually observed

LOGGING, CORING, TESTING PROGRAM

A) Logging: DIL- CNL-FDC-GR - TD - BSC (GR to surface)

Sonic (BSC to TD)

B) Coring:

C) Testing: Possible DST – None anticipated. Drill stem tests may be run on shows of interest

ABNORMAL CONDITIONS

A) Pressures: No abnormal conditions are anticipated

Bottom hole pressure gradient - 0.31 psi/ft

B) Temperatures: No abnormal conditions are anticipated

C) H₂S:

None anticipated

D) Estimated bottomhole pressure: 1,240 psi

ANTICIPATED START DATE

May 19, 2005

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Jicarilla 29-02-29 43

745' FSL 2,190' FEL (SW /4 SE /4)

Sec. 29 T 29N R 2W

Rio Arriba County, New Mexico MDA 701-98-0013, Tract 2

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth:		4,000 '
Proposed Depth of Surface Casing:		250 '
Estimated Pressure Gradient:		0.31 psi/ft
Bottom Hole Pressure at		4,000 '
0.31 psi/ft x 4,000 '	=	1,240 psi
Hydrostatic Head of gas/oil mud:		0.22 psi/ft
0.22 psi/ft x 4,000 '	=	880 psi

Maximum Design Surface Pressure

		•
Cooing Strongtho	Q 5/Q"	J-55 24# ST&C
Casing Strengths	0-0/0	J-00 Z4# 010C

Wt	Tension (lbs)	Burst (psi)	Collapse (psi)
24 #	244,000	2,950	1,370
32 #	372,000	3,930	2,530

Safety Factors

Tension (Dry):	1.8	Burst:	1	.0		Collapse	e :	1.125
Tension (Dry):	24 #/ft	x	250	'	=	6,000 #		
•	Safety Factor	=	244,000		=	40.67		ok
	·	-	6,000					
Burst:	Safety Factor	=	2,950	psi	=	8.19		ok
			360	psi				
Collapse:	Hydrostatic	= 0.0	52 x 9.0) ppg	x	250 '=	117	psi
	Safety Factor	=	1,370	psi	=	11.71		ok
			117	psi				

Use 250 ' 8-5/8" J-55 24# ST&C

Use 2,000 psi minimum casinghead and BOP's

Centralizers

5 Total

1 near surface at 40'

2 -1 each at middle of bottom joint, second joint

2 -1 each at every other joint ±40 ' spacing

Total centralized

± 200 '(

50' - 250')

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.

2-M SYSTEM Black Hills Gas Resources, Inc.

ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS BOP PRESSURE TEST TO 1,000 PSI

